

Normal fetal growth and birthweight in monochorionic vs dichorionic twin pregnancy

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Objectives

- There is ongoing debate as to whether monochorionic (MC) and dichorionic (DC) pregnancies require different growth charts¹.
- We wanted to quantify fetal weight and birthweight in twins with different chorionicities when pathological factors are excluded.

Methods

Our cohort consisted of 2048 twins born in UK GAP units 2023 - 4.

We collected data on maternal characteristics, EFW measurements and outcomes including gestational age and weight at birth

Fetal weight curves were modelled for each chorionicity using nested mixed-effects regression in pregnancies with 3 or more scans after excluding

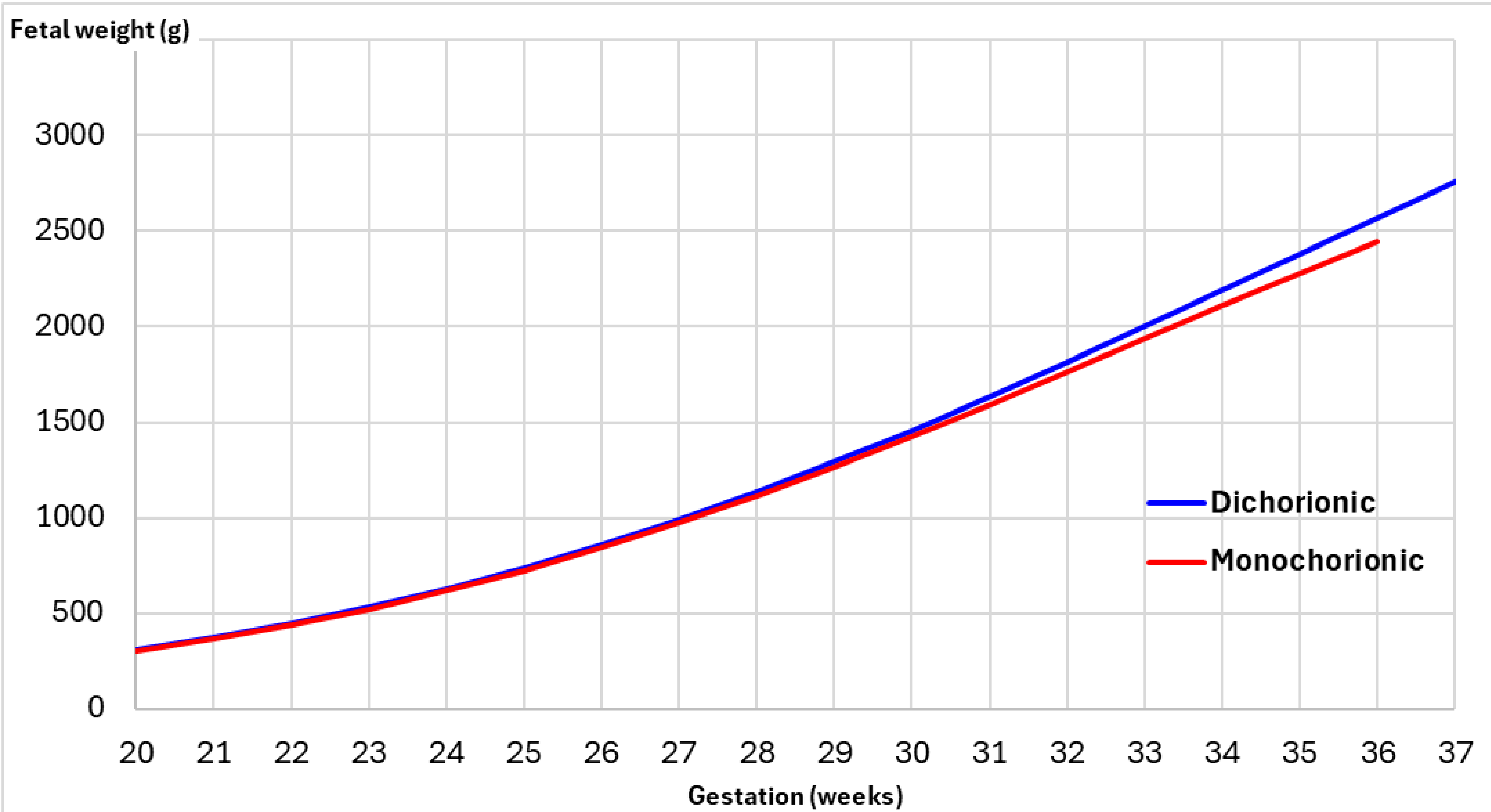
- preterm and post-term births MC: <33+0 and >36+6 weeks
DC: <34+0 and >37+6 weeks
- twin-twin discordance (>25%)
- maternal factors: BMI < 18.5 and >30,
- age >40, smoking, hypertension
- previous SGA babies

Birthweights were compared using mixed-effects regression to quantify differences between MC and DC pregnancies after adjusting for confounders using a directed acyclic graph

	Monochorionic N=222		Dichorionic N=802	
Number of scans, mean SD	5.0	1.8	4.4	1.6
Gestation of birth, p50 IQR	35+5	15	36+5	12
<37 weeks, n %	209	94.1	437	54.5
<34 weeks, n %	51	23.0	101	12.6
Discordance >25%, n %	24	10.8	62	7.7

Results

- The study cohort included 222 (22%) MC and 802 (78%) DC pregnancies, with an average gestational age at birth of 35+5 and 36+5 weeks, respectively.
- Analysis at 36 weeks, after adjustment for confounders, showed a difference between MC and DC birthweight of - 2 g only (95% CI: -47.0 to 43.0).
- As shown in the Figure, the fetal weight curves overlapped until the MC trajectory started to decline from about 32-33 weeks.



Conclusion

- After excluding pathological factors and adjusting for physiological variables, MC fetal growth is similar to that in DC pregnancies but is frequently complicated by late onset growth restriction.
- The results suggest that it is appropriate to use a dichorionic growth standard to monitor fetal growth of monochorionic twins.

Reference

- Hiersch L, Barrett J, Fox NS, Rebarber A, Kingdom J, Melamed N. Should twin-specific growth charts be used to assess fetal growth in twin pregnancies? Am J Obstet Gynecol. 2022 1;227(1):10–28.<https://www.doi.org/10.1016/j.ajog.2022.01.027>